

WHAT IS CLAIMED IS:

1. A fabric comprising:

5 a first layer of yarns woven to form the fabric wherein said yarns further comprise at least one carbon nanotube fiber and wherein said carbon nanotube fiber comprise single-walled carbon nanotubes and/or multi-walled carbon nanotubes.

10 2. The fabric of Claim 1, wherein said carbon nanotube fibers comprise insulating, semiconducting, conducting and/or superconductive fibers.

15 3. The fabric of Claim 1, wherein said yarns comprise at least one fiber selected from the group consisting of wool, cotton, asbestos, nylon, synthetic and carbon nanotubes and wherein said carbon nanotube comprise insulating, semiconducting, conducting and/or superconductive carbon nanotubes.

20 4. The fabric of Claim 1, wherein said first layer of yarns woven together exhibit the physical, electrical, mechanical, chemical or thermal properties of said carbon nanotube fibers that comprise said yarns.

25 5. The fabric of Claim 1 wherein said fabric comprises at least one additional layer of yarns woven together.

6. The fabric of Claim 5 wherein said additional layer of yarns further comprise carbon nanotube fibers.

7. The fabric of Claim 1, wherein said yarns comprise carbon nanotube fibers having different electrical and mechanical properties.

5 8. A garment made of fabric, wherein said fabric comprises:

 a first layer of yarns woven to form the fabric wherein said yarns further comprise at least one carbon nanotube fiber and wherein said carbon nanotube fiber comprise single-walled
10 carbon nanotubes and/or multi-walled carbon nanotubes.

 9. The garment of Claim 8, wherein said carbon nanotube fibers comprise insulating, semiconducting, conducting and/or superconductive fibers.

15 10. The garment of Claim 8, wherein said yarns comprise at least one fiber selected from the group consisting of wool, cotton, asbestos, nylon, synthetic and carbon nanotubes and wherein said carbon nanotube comprise insulating,
20 semiconducting, conducting and/or superconductive carbon nanotubes.

 11. The garment of Claim 8, wherein said first layer of yarns woven together exhibit the physical, electrical,
25 mechanical, chemical or thermal properties of said at least one carbon nanotube fibers that comprise said yarns.

 12. The garment of Claim 8 wherein said fabric comprises at least one additional layer of yarns woven together.

13. The garment of Claim 12, wherein said first layer comprises yarns of superconductive carbon nanotube fibers that form a Faraday cage and wherein said at least one additional layer of yarns woven together comprise insulating carbon nanotube fibers.

14. The garment of Claim 13, further comprising a tether electrically coupled to said first layer and wherein said tether shunts electricity flowing within said first layer to ground.

15. The garment of Claim 12, wherein said first layer comprises yarns of carbon nanotube fibers having a high thermal conductivity and wherein said at least one additional layer of yarns thermally insulate said first layer from a wearer.

16. The garment of Claim 15, further comprising a tether thermally coupled to said first layer and wherein said tether shunts thermal energy between said first layer and a heat-sink or heat-source.

17. The garment of Claim 8, wherein said garment comprises a glove, body suit or stockings.

18. The garment of Claim 8, wherein said first layer comprises tightly packed carbon nanotube fibers held together by Van der Waals' forces.

19. The garment of Claim 18, wherein said garment acts as barrier to objects larger than or equal to 1×10^{-9} meters.

20. A multi-layered fabric, wherein said fabric comprises:
a first layer of yarns woven to form the fabric wherein
said yarns further comprise at least one carbon nanotube fiber
and wherein said carbon nanotube fiber comprise single-walled
5 carbon nanotubes and/or multi-walled carbon nanotubes; and
at least one additional layer of yarns woven together
adjacent and coupled to said first layer.

21. The multi-layered fabric of Claim 20, wherein said
10 carbon nanotube fibers comprise insulating, semiconducting,
conducting and/or superconductive fibers.

22. The multi-layered fabric of Claim 20, wherein said
yarns comprise at least one fiber selected from the group
15 consisting of wool, cotton, asbestos, nylon, synthetic and
carbon nanotubes and wherein said carbon nanotube comprise
insulating, semiconducting, conducting and/or superconductive
carbon nanotubes.

23. The multi-layered fabric of Claim 20, wherein said
20 first layer of yarns woven together exhibit the physical,
electrical, mechanical, chemical or thermal properties of said
at least one carbon nanotube fibers that comprise said yarns.

24. The multi-layered fabric of Claim 20, wherein said
25 first layer comprises yarns of superconductive carbon nanotube
fibers which electromagnetic radiation does not penetrate.

25. The multi-layered fabric of Claim 20 further comprising a tether electrically coupled to said first layer, wherein said tether shunts electricity flowing within said first layer to ground.

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26. The multi-layered fabric of Claim 20 wherein said first layer comprises yarns of carbon nanotube fibers having a high thermal conductivity and wherein said at least one additional layer of yarns thermally insulate said first layer from an adjacent environment.

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27. The multi-layered fabric of Claim 26 further comprising a tether thermally coupled to said first layer and wherein said tether shunts thermal energy between said first layer and a heat-sink or heat-source.

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28. The multi-layered fabric of Claim 20, wherein said first layer comprises tightly packed carbon nanotube fibers held together by Van der Waals' forces.

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29. The multi-layered fabric of Claim 28, wherein said first layer acts as barrier to objects larger than or equal to 1×10^{-9} meters.